



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/756,394	01/14/2004	Satoru Toguchi	A081-B	1885
23345	7590	04/26/2005	EXAMINER	
MCGUIREWOODS, LLP 1750 TYSONS BLVD SUITE 1800 MCLEAN, VA 22102			YAMNITZKY, MARIE ROSE	
			ART UNIT	PAPER NUMBER
			1774	

DATE MAILED: 04/26/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/756,394

Applicant(s)

TOGUCHI ET AL.

Examiner

Marie R. Yamnitzky

Art Unit

1774

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 January 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 and 34-41 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 and 34-41 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☒ Certified copies of the priority documents have been received in Application No. 09/186,081.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date rec'd 14 Jan 2004.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

Art Unit: 1774

1. The preliminary amendment filed January 14, 2004, which amends the specification, the abstract and claims 1 and 5, cancels claims 7-33, and adds claims 34-41, has been entered.

Claims 1-6 and 34-41 are pending.

2. Claims 34-41 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

It is not clear what is intended to be excluded by the “consisting of” language in line 1 of claim 34, the “consisting essentially of” language in line 1 of claim 40, and the “consisting essentially of” language in lines 1-2 of claim 41, particularly in light of later claim language that allows for additional components not explicitly recited (e.g. “at least one”, “including at least”, “containing”, “alone or in combination”).

Line 1 of claim 41 is confusing in reciting “or”. Since only an organic layer is defined within the body of the claim, it is not clear if “or” in line 1 should read --for--.

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Art Unit: 1774

4. Claims 1, 3, 34, 36, 40 and 41 are rejected under 35 U.S.C. 102(e) as being anticipated by Shi et al. (US 6,013,383).

See the whole patent. In particular, see formulae (VI) and (VII) in column 6, see c. 6, l. 61-c. 7, l. 10 and see claims 15, 16, 23 and 24.

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 2, 4-6, 35 and 37-39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shi et al. (US 6,013,383) as applied to claims 1, 3, 34, 36, 40 and 41 above, and for the further reasons set forth below.

With respect to claims 2 and 35, the prior art compounds represented by formulae (VI) and (VII) do not include a substituent on the aryl groups corresponding to Ar¹ and Ar². However, Shi teaches that the aryl groups may be substituted (e.g. see c. 5, l. 20-22). It would have been *prima facie* obvious to one of ordinary skill in the art at the time of the invention to make compounds similar to the specific compounds disclosed by Shi with the expectation that compounds that are suggested by Shi and similar to the specific compounds would have properties similar to the specific compounds and would be suitable for use in a hole transporting and/or emitting layer of an organic EL device. One of ordinary skill in the art would have

reasonably expected that substituted derivatives of formulae (VI) and (VII), having substituents as described at (d) in column 5 would be suitable for use in a hole transporting and/or emitting layer of an organic EL device.

With respect to claims 4, 5, 37 and 38, the prior art does not specifically limit the work function of the anode and the cathode. However, it is conventional for the cathode of an organic EL device to have a smaller work function than the anode, and it would have been within the level of ordinary skill of a worker in the art at the time of the invention to determine suitable and optimum work functions for the electrodes based on the effect that work function has on the driving characteristics of an EL device.

With respect to claims 6 and 39, the prior art does not specifically limit the thickness of the organic layer. It would have been within the level of ordinary skill of a worker in the art at the time of the invention to determine suitable and optimum thicknesses for the organic layer. As was known in the art at the time of the invention, if the layers between the electrodes are too thin, pinholes can form in the layers and, if the layers are too thick, electrical resistance can become adversely high.

7. Claims 1-6 and 34-41 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 9-268284.

See the entire translation (provided during prosecution of parent Application No. 09/961,230), especially the claims and paragraphs [0018]-[0021], [0051], [0052], [0061] and

[0063]. (In paragraph [0063] of the translation, the symbol “ μ ” should appear after 10 in the penultimate line and after 0.2 in the last line.)

JP 9-268284 discloses aromatic compounds substituted with two diarylamino groups wherein one or both of the aryl groups of one or both of the diarylamino groups may include one or more substituents. The compounds may be used in any of the layers between a pair of electrodes in an organic electroluminescent device (e.g. see the claims).

While the prior art does not explicitly disclose a perylene compound of present formula C1, such compounds are clearly within the scope of the prior art. The aromatic compound that is substituted with two diarylamino groups is an aromatic compound having 6 to 20 carbon atoms, and may be a compound in which two naphthylene groups are directly bonded to each other as represented by the formula shown in paragraph [0020].

It would have been *prima facie* obvious to one of ordinary skill in the art at the time of the invention to make compounds suggested by the prior art other than the specific compounds disclosed by the prior art with the expectation that suggested compounds would have properties similar to the properties of the specific compounds disclosed by the prior art and would be equally suitable for the purposes of the prior art. One of ordinary skill in the art would have been motivated to make a variety of compounds suggested by the prior art in order to have a variety of compounds having light emitting, hole transporting and electron transporting properties that would be suitable for use in an organic electroluminescent device.

Art Unit: 1774

8. Any inquiry concerning this communication should be directed to Marie R. Yamnitzky at telephone number (571) 272-1531. The examiner works a flexible schedule but can generally be reached at this number from 6:30 a.m. to 4:00 p.m. Monday, Tuesday, Thursday and Friday, and every other Wednesday from 6:30 a.m. to 3:00 p.m.

The current fax number for Art Unit 1774 is (703) 872-9306 for all official faxes.
(Unofficial faxes to be sent directly to examiner Yamnitzky can be sent to (571) 273-1531.)

MRY
April 25, 2005



**MARIE YAMNITZKY
PRIMARY EXAMINER**

1774